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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,930	03/05/2002	Terrance M. Sharp	BAE 3036	5272
30868	7590	05/05/2004	EXAMINER	
KRAMER & AMADO, P.C. 2001 JEFFERSON DAVIS HWY SUITE 1101 ARLINGTON, VA 22202			GOFF II, JOHN L	
			ART UNIT	PAPER NUMBER
			1733	

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/087,930

Applicant(s)

SHARP, TERRANCE M.

Examiner

John L. Goff

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 March 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group II, claims 5-20, in the response submitted 3/19/04 is acknowledged.

Drawings

2. New corrected drawings are required in this application because the drawings submitted 3/5/02 are informal and do not conform to 37 CFR 1.84. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 5, 6, 8, 9, 15, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Ermert et al. (Publication from *Plastics Engineering* titled "R U Reinforcing plastics with robots?").

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Ermert et al. disclose a robot system used to apply adhesive tape to a workpiece. Ermert et al. teach the robot system comprises a computer, a robotic arm (under the control of the computer) including attachments for a tape applicator and an activator applicator, and a work table (i.e. means to hold a work piece). Ermert et al. teach the tape applicator may comprise a roller (capable of storing the tape), a nose having a smooth radius (capable of applying the tape to a work piece), a guide means (capable of guiding the tape from the roller to the nose), a tensioning means (capable of maintaining the tape in uniform tension between the roller and the nose), a pneumatically controlled piston (capable of maintaining a constant pressure on the tape applicator), and a pneumatic cutter (capable of cutting the tape) (See Figures 1, 2, 4, and 5 and the description under "Tape-laying").

Regarding claim 5, the limitation "such that when the computer means is programmed with data respecting the shape of the work piece and the proposed path of the tape to be adhered to the work piece, the tape applicator means is adapted to apply the tape to the work piece along said path." is a method limitation. The apparatus taught by Ermert et al. is capable of performing this limitation.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 7, 10, 11, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ermert et al. as applied in paragraph 4 above, and further in view of Frank (U.S. Patent 4,382,836).

Regarding claims 7 and 11, Ermert et al. as applied above teach all of the limitations in claims 7 and 11 except for a specific teaching of the tape applicator including tape braking means. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the tape applicator taught by Ermert et al. a tape braking means such as the one shown for example by Frank as it was well known in the art to include a tape breaking means on a tape applicator head for securing the tape after it is cut and thereafter providing the cut end of the tape to the tape applicator nose. It is noted Ermert et al. as modified by Frank does not specifically recite the tape breaking means is "adapted to hold the tape stationary during cutting". However, this is a method limitation that the apparatus taught by Ermert et al. as modified by Frank is capable of performing.

Regarding claim 10, Ermert et al. as applied above teach all of the limitations in claim 10 except for a specific teaching of the tensioning means including nip rolls. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the tensioning means taught by Ermert et al. nip rolls such as those shown for example by Frank as it was well known in the art to use nip rolls as the tensioning means on a tape applicator wherein only the expected results would be achieved.

Regarding claims 16-18, Ermert et al. as applied above teaches all of the limitations in claims 16-18 except for a specific teaching of the tape applicator including a pneumatic knife cutter located within the perimeter of the tape applicator when not in operation. It would have

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been obvious to one of ordinary skill in the art at the time the invention was made to use as the pneumatic knife cutting means taught by Ermert et al. one that is located within the perimeter of the tape applicator as it was well known and conventional in the art to include the pneumatic knife cutter in this position as shown for example by Frank wherein only the expected results would be achieved.

Frank discloses a tape applicator comprising a roller (capable of storing tape), a nose having a smooth radius (capable of applying the tape to a work piece), a guide means (capable of guiding the tape from the roller to the nose), nip rolls (a tensioning means capable of maintaining the tape in uniform tension between the roller and the nose), a pneumatically controlled piston (capable of maintaining a constant pressure on the tape applicator), tape breaking means controlled by an actuator (capable of holding the tape stationary during cutting), and a fully retractable knife cutting means controlled by an actuator located within the perimeter of the tape applicator (capable of cutting the tape) (Figures 1-8 and Column 5, lines 31-34 and Column 6, lines 16-19, 30-38 and 58-68 and Column 7, lines 1-2).

7. Claims 5-11, 15-18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frank in view of Ermert et al. or alternatively over Ermert et al. in view of Frank.

Frank is described above in paragraph 6. Frank is silent as to using the tape applicator in a computer controlled robotic arm system. However, the tape applicator taught by Frank is designed to be mounted on a movable support such that it would have been obvious to one of ordinary skill in the art at the time the invention was made to mount the tape applicator taught by Frank on any well known and conventional movable support for a tape applicator such as that shown for example by Ermert et al. (Ermert et al. is described above in paragraph 4) wherein the

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system taught by Ermert et al. provides benefits such as automatic control of the tape applicator. Alternatively, Ermert et al. is not limited to any particular tape applicator (the tape applicator taught by Ermert et al. being part of a much larger system of interchangeable applicators) such that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use in the system taught by Ermert et al. the tape applicator taught by Frank for benefits such as the tape applicator would include tape braking means, a cutter located within the perimeter of the tape applicator, etc.

Regarding claim 5, the limitation "such that when the computer means is programmed with data respecting the shape of the work piece and the proposed path of the tape to be adhered to the work piece, the tape applicator means is adapted to apply the tape to the work piece along said path." is a method limitation. The apparatus taught by Frank as modified by Ermert et al. (or in the alternative) is capable of performing this limitation.

8. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ermert et al. and Frank as applied in either one of paragraphs 6 or 7 above, and further in view of Roettger et al. (U.S. Patent 4,885,981).

Ermert et al. and Frank as applied above teach all of the limitations in claims 12 and 13 except for a specific teaching of the type of actuator used to operate the tape breaking means, it being noted Ermert et al. and Frank do not suggest or require any particular type of actuator. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use any well known and conventional actuator to operate the tape breaking means taught by Ermert et al. as modified by Frank (or Frank as modified by Ermert et al.) such as a pneumatic

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spring return actuator as shown for example by Roettger et al. wherein the pneumatic spring actuator has advantages such as being designed to fail in either a closed or open position.

Roettger et al. disclose conventional pneumatic spring return actuators wherein the actuators have the particular benefit of being designed to fail in either a closed or open position (Figures 1 and 2 and Column 1, lines 6-29 and Column 2, lines 57-61).

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ermert et al. as applied in paragraph 4 above or Ermert et al. and Frank as applied above in either one of paragraphs 6 or 7, and further in view of Manusch et al. (U.S. Patent 5,462,633).

Ermert et al. is discussed in full detail in paragraph 4 above.

Ermert et al. as applied above teach all of the limitations in claim 14 except for a specific teaching of including on the nose of the tape applicator projections less than the thickness of the tape. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include on the nose of the tape applicator taught by Ermert et al. projections having a thickness less than the thickness of the tape being applied as it was well known in the art to include projections on the nose of a tape applicator head to ensure the tape is applied up to a maximum pressure thus preventing tears or bumps in the applied tape as shown for example by Manusch et al.

Ermert et al. and Frank are applied for the same reasons as presented in paragraphs 6 and 7.

Ermert et al. and Frank as applied above teach all of the limitations in claim 14 except for a specific teaching of including on the nose of the tape applicator projections less than the thickness of the tape. It would have been obvious to one of ordinary skill in the art at the time

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the invention was made to include on the nose of the tape applicator taught by Ermert et al. as modified by Frank (or Frank as modified by Ermert et al.) projections having a thickness less than the thickness of the tape being applied as it was well known in the art to include projections on the nose of a tape applicator head to ensure the tape is applied up to a maximum pressure thus preventing tears or bumps in the applied tape as shown for example by Manusch et al.

Manusch et al. disclose a tape applicator head including on the nose of the applicator projections having a thickness less than the thickness of the tape being applied to ensure the tape is applied up to a maximum pressure thus preventing tears or bumps in the applied tape (Figure 2 and Column 1, lines 38-44 and 66-67 and Column 2, lines 1-17 and 28-37).

10. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ermert et al. as applied in paragraph 4 above or Ermert et al. and Frank as applied above in either one of paragraphs 6 or 7, and further in view of Jensen et al. (U.S. Patent 6,537,406).

Ermert et al. is discussed in full detail in paragraph 4 above.

Ermert et al. as applied above teach all of the limitations in claim 19 except for a specific teaching of including vacuum ports on the tape applicator. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include adjacent the nose of the tape applicator taught by Ermert et al. vacuum ports as it was well known in the art to include vacuum ports adjacent the nose of a tape applicator to ensure the tape is applied wrinkle free as shown for example by Jensen et al.

Ermert et al. and Frank are applied for the same reasons as presented in paragraphs 6 and 7.

Ermert et al. and Frank as applied above teach all of the limitations in claim 19 except for a specific teaching of including vacuum ports on the tape applicator. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include adjacent the nose of the tape applicator taught by Ermert et al. as modified by Frank (or Frank as modified by Ermert et al.) vacuum ports as it was well known in the art to include vacuum ports adjacent the nose of a tape applicator to ensure the tape is applied wrinkle free as shown for example by Jensen et al.

Jensen et al. disclose a tape applicator head including a nose having adjacent vacuum ports wherein the vacuum ports ensure the tape is applied wrinkle free (Figure 5 and Column 7, lines 40-49).

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **(571) 272-1216**. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

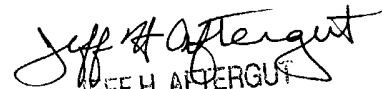
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John L. Goff
April 27, 2004



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